

What good is Raman water vapor lidar?

Raman lidar has been used to quantify water vapor in the atmosphere for various scientific studies including mesoscale meteorology and satellite validation. Now the international networks of NDACC and GRUAN have interest in using Raman water vapor lidar for detecting trends in atmospheric water vapor concentrations. What are the data needs for addressing these very different measurement challenges. We will review briefly the scientific needs for water vapor accuracy for each of these three applications and attempt to translate that into performance specifications for Raman lidar in an effort to address the question in the title of “What good is Raman water vapor lidar.”